



AW139

Lightning strike

**AW Customer Support Lunch
Orlando, 7th March 2011**



Short background story...



- **Susanne H. Lastein;**
 - CEO and owner of Bel Air Aviation in Denmark
 - AW139 ☺ captain
 - married to Bjarne, we have 6 kids aged 3 to 18
 - living next to Bel Air at Holsted heliport
- **Bel Air Aviation;**
 - family owned company with a professional board
 - started in 1994, expanded into offshore in 2009
 - 45 flexible, dedicated, experienced employees
 - operating 3 offshore AW139 – 1 owned, 2 leased
 - AgustaWestland Service Center



Where there's a will, there's a way



- **AW139 - exceptional statistic;**
 - 99.8% on time performance
 - 4 delays - 1700 flights – 6300 takeoffs
 - Helicopter availability – 98.8% including scheduled and unscheduled maintenance
 - Customized flexibility for every flight; 2 till 15 pax version, VIP, cargo, sling
 - 1 AW139 in operation the first year – only 7 days backup due to 1 year check



A lightning strike in the North Sea



- On Saturday **27th November 2010**, our AW139 helicopter experienced a Lightning Strike during an offshore mission.
- Weather was snowy and no thunderstorm activity in the area.
- During cruise, the pilots heard a loud bang outside followed by a CAS message HEATED WINDSHIELD FAIL.
- Pax went back to sleep again – so he felt as comfortable as the pilots themselves.
- The helicopter flew further 20 minutes to the platform and landed without noticing any problems.





AOG on the platform...



- After landing our Bel Air technician noticed damages on the tail plane and on four MR Blades.
- The helicopter was AOG on the platform.
- We contacted AW 24.7 Fleet Operations Centre and additional manpower from Bel Air was send to the platform right away.
- As a natural solution, other helicopters was leased to fulfill the continous flight schedule for Maersk Oil.





Working in very hard environment...



- Bel Air employees started the preliminary lightning strike inspection on the platform with support from Agusta – Maersk Oil employees, the Bel Air pilots and Bel Air engineers was a great team in this tough environment.

Everybody still remember working in windy and snowing weather conditions with a chillfactor of **-18** degrees Celcius on the platform.





Test and inspections on the platform...



A lot of tests was performed on the platform – they were all satisfied – no fault found;

- HUMS and FDR download – all parameters normal
- All possible selftest performed
- DCU download performed
- MGB upper deck inspected
- Flight controls
- Electrical system functional checked
- Avionic system tested
- Detailed inspection of the tail and tail boom





Bel Air need of AW 24.7 support...



- We were almost in hourly contact with AW 24.7 support operation center to get the helicopter back onshore for inspections.
- On **29th November**, a ferry flight to our maintenance base was granted by AW Engineering team, having replaced the four Main Rotor Blades on a cautionary basis and after a lot of inspections on the platform.
- On the following day four new Main Rotor Blades were shipped by AW, direction North Sea.





A team-working experience



- On **30th November** the new Blades arrived at the Esbjerg offshore harbor, ready to be dispatched by a Maersk vessel.
- The vessel was able to deliver the four Blades on **2nd December**, after the weather conditions became acceptable for crane operations offshore.
- On **3rd December** EASA approved the Ferry Flight and the aircraft left the platform and landed safely at our Bel Air main base one hour later.





Inspections, a lot of inspections...



7 days inspections was made day and night by our 12 engineers:

- *MR Head (fully disassembled)*
- *MGB*
- *IGB removed for inspection*
- *Fuselage*
- *Tail boom*
- *Flight controls*
- *Hydraulic system*
- *Aft floats*
- *Avionic system*

- in cooperation with
AgustaWestland.





Back in flight again...



...the aircraft was finally released into service on **10th December**, having replaced:

- *Tail plane*
- *5th MR Blade*
- *MR Duplex Bearing*
- *MGB, for AW investigation*

... back into service for Maersk Oil ☺ - only 2 weeks after the strike.

There have been no after-effects with the helicopter due to the lightning strike.





Fantastic helicopter and great teams ...



Bel Air conclusion;

The AW139 helicopter is a fantastic machine - able to continue flight operation after being hit by lightning strike without the pilots and passengers noticing it.

The AW 24.7 Fleet Operations Centre and the whole team behind did a fantastic job together with a very dedicated Bel Air team – everybody was working day and night to get our helicopter airborne again.

Thank you very much 😊





New generation is the future ...



New generation helicopter

- due to the high certification standard of the AW139 it was possible to safely continue flight after the lightning strike.
- Bel Air appreciate the AW139 safety level very, very much – as the responsible manager it was so nice to be able to inform the families and our team, that



everybody involved was well after they experienced a lightning strike in our AW139 ...



The New Generation